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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,570	09/27/2001	Neil Leslie Kilpatrick	01P17904US	3074

7590 03/17/2004

Siemens Corporation  
Intellectual Property Department  
186 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

ELKASSABGI, HEBA

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/965,570	Applicant(s) KILPATRICK ET AL.	
	Examiner Heba Elkassabgi	Art Unit 2834	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02/20/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

*The 35 USC § 112 objections are withdrawn by the examiner in light of applicant's amendment to the claims.*

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1,2,3,4,5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Prior Art and further in view of Field (U.S. Patent 1227414) and Hein et al. (U.S. Patent 4827597).

Applicants Prior Art (A.K.A. APA) discloses in the background a power generator having a stator and a rotor that is positioned adjacent the stator. The rotor, having rotor wedges, with a plurality of slots formed onto the rotor and a plurality of a rotor coils each positioned within the rotor slots. However, APA does not disclose a rotor wedge with a hollow cavity and the hollow cavity being sloping inwardly.

Field discloses in Figure 6, a rotor wedge having a wedge body (17) and at least one substantially hollow cavity (AA) formed in the wedge body (17) that extends in a substantially longitudinal direction through a portion of the wedge portion. The wedge

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body (17) is substantially rigid (BB) and elongated, wherein the wedge body (17) includes a substantially flat bottom (CC) surface and a substantially flat top surface (DD), the top surface having less surface area than the bottom surface, and wherein an imaginary vertical center line (EE) extending from the top surface to the bottom surface dividing the wedge body (17) into two half portions (AA1 and AA2), the two half portions (AA1 and AA2) being substantially mirror images of each other; for the purpose of having a construction that may employ an advantage for the core slots where a tight fit is needed.

Hein illustrates in Figure 7, a wedge body (30) that is substantially solid with at least a pair of side peripheries (FF), each sloping inwardly and upwardly from the plane of the extent of the substantially flat bottom surface (GG) of the wedge body (30), in order to provide an extension of the magnetic path across the entry the slot.

It would have been obvious to one of ordinary skill in the art to combine Applicants Prior Art with the reference of Field for the purpose of providing a constructing a rotor core to accompany a desired structural feature and the reference of Hein et al. in order to provide a wedge body slot openings that provides a magnetic path across.

In regards to Claim 1, the functional limitation that of the rotor wedge that " at least one hollow cavity is substantially evenly distributed about a neutral axis of stress applied to the wedge body when in use and so, that the neutral axis of stress of the wedge body having the hollow cavity is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the hollow

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cavity,” has not been given patentable weight because it its narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a “means” for performing the specified function, as set forth in 35 USC 1123, 6<sup>th</sup> paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

In regards to Claim 1, the wedges being “extruded” is a method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

In regards to Claim 3, the functional limitation that of the rotor wedge being about the “the neutral axis of the stress of the wedge body having a plurality of hollow cavities is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the plurality of hollow cavities,” has not been given patentable weight because it its narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a “means” for performing the specified function, as set forth in 35 USC 1123, 6<sup>th</sup> paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

In regards to Claims 7, the angle being ranging from 5 to 45 degrees as disclosed, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a workable range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

### **Claim Rejections - 35 USC § 103**

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Field (U.S. Patent 1227414) and in further view of Hein et al. (U.S. Patent 4827597).

Field discloses in Figure 6, a rotor wedge having a wedge body (17) and at least one substantially hollow cavity (AA) formed in the wedge body (17) that extends in a substantially longitudinal direction through a portion of the wedge portion. The wedge body (17) is substantially rigid (BB) and elongated, wherein the wedge body (17) includes a substantially flat bottom (CC) surface and a substantially flat top surface (DD), the top surface having less surface area than the bottom surface, and wherein an imaginary vertical center line (EE) extending from the top surface to the bottom surface dividing the wedge body (17) into two half portions (AA1 and AA2), the two half portions (AA1 and AA2) being substantially mirror images of each other; for the purpose of having a construction that may employ an advantage for the core slots where a tight fit is needed. However, Field does not disclose that the wedge body is substantially solid.

Hein illustrates in Figure 7, a wedge body (30) that is substantially solid and elongated, in order to provide an extension of the magnetic path across the entry the slot.

It would have been obvious to one of ordinary skill in the art to combine the reference of Field for the purpose of providing a constructing a rotor core to accompany a desired structural feature and the reference of Hein et al. in order to provide a wedge body slot openings that provides a magnetic path across.

In regards to Claim 8, the functional limitation that of the rotor wedge that "a neutral axis of stress of the wedge body having the hollow cavity is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the hollow cavity," has not been given patentable weight because it is in narrative form. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 1123, 6<sup>th</sup> paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

In regards to Claim 8, the wedges being "extruded" is a method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

In regards to Claim 10, the functional limitation that of the rotor wedge being about the "the neutral axis of the stress of the wedge body having a plurality of hollow cavities is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the plurality of hollow cavities," has not been given patentable weight because it is in narrative form. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 1123, 6<sup>th</sup> paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

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Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Field (U.S. Patent 1227414) and Hein et al. (U.S. Patent 4827597).

Field discloses in Figure 6, a rotor wedge having a wedge body (17) and at least one substantially hollow cavity (AA) formed in the wedge body (17) that extends in a substantially longitudinal direction through a portion of the wedge portion. The wedge body (17) is elongate and substantially rigid (BB), wherein the wedge body (17) includes a substantially flat bottom (CC) surface and a substantially flat top surface (DD), the top surface having less surface area than the bottom surface, and wherein an imaginary vertical center line (EE) extending from the top surface to the bottom surface dividing the wedge body (17) into two half portions (AA1 and AA2), the two half portions (AA1 and AA2) being substantially mirror images of each other; for the purpose of having a construction that may employ an advantage for the core slots where a tight fit is needed. However, field does not disclose the sloping sides.

Hein et al. illustrates in Figure 7, a wedge body (30) substantially solid body with at least a pair of side peripheries (FF), each sloping inwardly and upwardly from the plane of the extent of the substantially flat bottom surface (GG) of the wedge body (30), in order to provide an extension of the magnetic path across the entry the slot.

It would have been obvious to one of ordinary skill in the art to combine the reference of Field with Hein in order to provide a wedge body slot openings that provides a magnetic path across.

In regards to Claims 14, the angle being ranging from 5 to 45 degrees as disclosed, it would have been obvious to one having ordinary skill in the art at the time



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the invention was made to choose a workable range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

In regards to Claim 15 the material choice of the wedge body formed from a metal material would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a suitable material for the wedge body, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

### ***Response to Arguments***

Applicant's arguments filed 11/21/2003 have been fully considered but they are not persuasive.

- 1) In response to applicant's argument on page 6, Field does not disclose if the core structure is a stator or a rotor core and does not specifically state if the wedge structure is for a stator or a rotor core.
- 2) In response to Applicant's argument that there is no suggestion to combine the reference, that the manufacturing of the rotor slot wedges and stator slot wedges are designed and constructed for very different application requirements, this is irrelevant to the claimed invention. The examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In

re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken, as a whole would suggest tone of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971). The references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA 1969). In this case, the Japanese reference of Iwamatsu et al. (WO 89/04078-see abstract) teaches that a motor core can be either a stator or a rotor in combination with Applicants Prior Art, Field, and Hein et al. that either a stator or rotor core can have a wedge that can be positioned to retain the coils within the core slots.

3) In response to applicants argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge, which was within the level of ordinary skill at the knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. In re McLaughlin, 443 F.2d 1392; 170 USPQ 209 (CCPA 1971).

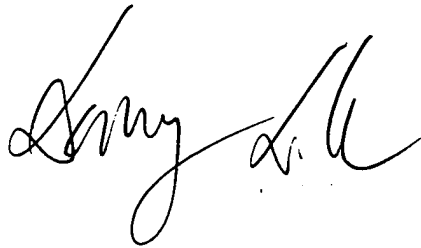
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (571) 272-2023-2723. If attempts to reach the examiner by telephone are unsuccessful, the

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examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE

A handwritten signature in black ink, appearing to read 'Dangle', is written over a faint, larger signature.

**DANGLE**  
**PRIMARY EXAMINER**